

18 | 734145

Y +

[First Hit](#)[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

Generate Collection

Print

L23: Entry 5 of 28

File: JPAB

Aug 15, 1995

PUB-NO: JP407215195A

DOCUMENT-IDENTIFIER: JP 07215195 A

TITLE: ANTISKID BRAKE CONTROL DEVICE OF VEHICLE FURNISHED WITH UNIAXIAL, SINGLE MODULATOR, TWO-WHEEL SPEED SENSOR

PUBN-DATE: August 15, 1995

## INVENTOR-INFORMATION:

NAME

COUNTRY

OKADA, KUNIO

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

JIDOSHA KIKI CO LTD

APPL-NO: JP06008042

APPL-DATE: January 28, 1994

INT-CL (IPC): B60 T 8/58

## ABSTRACT:

PURPOSE: To minimize a braking distance by providing an antiskid brake control map selection means to select a second antiskid brake control map at the time when car body deceleration is larger than a set value.

CONSTITUTION: At the time when car body deceleration is larger than a set value, it can be regarded that a vehicle is under ABS (antiskid brake control) while turning travelling on a high  $\mu$  road. Additionally, in the case when either one of left and right wheel is in a decompression mode and the other is under service brake, the ABS of select low by a second ABS map 24 is carried out, and accordingly, the left and right wheels are ABSed (antiskid brake controlled) so that wheel lock inclination becomes smaller. Consequently, in this case, braking pressure of the inside wheel at the time of turning is decompressed, lock inclination of this inside wheel is restrained, and abrasion of this inside wheel is restrained.

COPYRIGHT: (C)1995, JPO

[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

*anti-skid*First HitPrevious DocNext DocGo to Doc#

Generate Collection

Print

Y

L23: Entry 27 of 28

File: DWPI

Dec 19, 1984

DERWENT-ACC-NO: 1984-313986

DERWENT-WEEK: 198451

COPYRIGHT 2004 DERWENT INFORMATION LTD

TITLE: Four-wheel drive vehicle with electronic differential steering - uses wheel-speed sensors and control circuit for regulating braking and engine torque

INVENTOR: LIEBER, H

PRIORITY-DATA: 1983DE-3321377 (June 14, 1983)

Search Selected

Search ALL

Clear

## PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	<u>EP 128583 A</u>	December 19, 1984	G	013	
<input type="checkbox"/>	<u>DE 3421776 A</u>	December 20, 1984		000	
<input type="checkbox"/>	<u>DE 3421776 C2</u>	September 30, 1993		006	B60K023/04
<input type="checkbox"/>	<u>DE 3475609 G</u>	January 19, 1989		000	
<input type="checkbox"/>	<u>EP 128583 B</u>	December 14, 1988	G	000	
<input type="checkbox"/>	<u>US 4589511 A</u>	May 20, 1986		000	

INT-CL (IPC): B60K 17/34; B60K 23/04; B60K 23/08; B60K 28/16; B60K 41/20; B60K 41/26; B60T 8/32

ABSTRACTED-PUB-NO: DE 3421776C

## BASIC-ABSTRACT:

The vehicle has sensors to measure the speeds of its wheels. The sensors are connected to a circuit that controls a braking pressure controller containing a pressure source so that one of more wheels is braked when its rotation differs from that of the other wheels. The control contains a device to produce a reference signal describing vehicle speed from the sensor's outputs.

The reference signal is used to delay any increase in speed under certain conditions. The control is linked to a device that alters engine torque so as to reduce that torque when the last wheel has passed through. The control only affects braking and torque up to a given speed.

ABSTRACTED-PUB-NO:

EP 128583A EQUIVALENT-ABSTRACTS:

A four-wheel drive vehicle has an engine (2) and gearbox (3) whose output to the four wheels (1a to 1d) is distributed via a balancing unit (3a), the transmission shafts (4a, 5a) and differential/drive- shafts (4, 5).

The wheel speed transmitters (1a' to 1d') provide continuous monitoring signals to the controller (6) to enable the detection of wheel-slip in any of the wheels (1a to 1d).

A valve block (7) in the vehicle tracking system responds to the controller (6) and automatically brakes the required wheel (5) to eradicate slip via the hydraulic conduits (8) and respective wheel cylinder (5). Should all four wheels slip the controller (6) imposes (9) reduced engine torque.

USE/ADVANTAGE - Provides effective alternative to systems operating with limited slip differentials by delaying vehicle re-acceleration until wheel-slip is eradicated. Is readily applicable to systems having antilock braking control.

EP 128583B

Four-wheel drive vehicle, in which the two wheels of an axle are in each case driven by a differential gear, these two differential gears being connected via drive shafts to a transfer case which is driven by the drive engine, and in which a brake pressure control device including a pressure source is provided, by which spinning wheels can be influenced, characterised in that the wheels (1a-1d) are assigned sensors (1a'-1d') for monitoring the wheel speed, in that these sensors are connected to a control device (6) and in that the brake pressure control device is then activated by the control device (6) in the sense of a braking of one or more wheels when this wheel spin or these wheels spin in comparison with the other wheels, and in that there is an operative connection (9) between the control device (6) and a member influencing the engine torque for the purpose of lowering the engine torque when the last of the wheels (1a-1d) also spins. (7pp)

US 4589511A

The all wheel drive automotive vehicle has an i.c. engine, a transmission, four wheels and a front and rear axle differential. A coupling differential may be coupled to the transmission. A traction control system has a brake unit and speed sensors related to each wheel, with an electronic control unit connected to receive all the individual wheel speed output signals.

If any one, or more, or all the wheel speed sensors provide output signals representative of spinning of a wheel, e.g. by providing output signals representative of a higher speed than other wheels, or higher than a reference - indicating that all wheels are spinning - an output signal is generated by the electronic control unit (6).

This controls application of the wheel brake to the respective wheel, thus preventing its spinning.

USE/ADVANTAGE - Prevents wheel spinning and avoids loss of traction.

(8pp)

[Previous Doc](#)

[Next Doc](#)

[Go to Doc#](#)

[First Hit](#) [Fwd Refs](#) [Previous Doc](#) [Next Doc](#) [Go to Doc#](#)



Generate Collection

L33: Entry 4 of 5

File: USPT

May 11, 1993

US-PAT-NO: 5210690

DOCUMENT-IDENTIFIER: US 5210690 A

TITLE: Anti-skid control system for vehicle

DATE-ISSUED: May 11, 1993

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kageyama; Fumio	Hiroshima			JP
Okazaki; Haruki	Hiroshima			JP
Onaka; Toru	Hiroshima			JP
Tsuyama; Toshiaki	Hiroshima			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Mazda Motor Corporation	Hiroshima			JP	03

APPL-NO: 07/ 682086 [PALM]

DATE FILED: April 9, 1991

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2-94656	April 10, 1990

INT-CL: [05] B60T 8/66

US-CL-ISSUED: 364/426.02; 303/109, 303/95

US-CL-CURRENT: 701/75; 303/163; 303/152

FIELD-OF-SEARCH: 364/426.01, 364/426.02, 364/565, 303/95, 303/96, 303/98, 303/102, 303/109

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

PAT-NO

ISSUE-DATE

PATENTEE-NAME

US-CL



4991910

February 1991

Shimanuki et al.

303/109



5019984

May 1991

Masaki et al.

364/426.02

<input type="checkbox"/>	<u>5065327</u>	November 1991	Yahagi et al.	364/426.02
<input type="checkbox"/>	<u>5072393</u>	December 1991	Mori et al.	364/426.02
<input type="checkbox"/>	<u>5092662</u>	March 1992	Okubo	303/106
<input type="checkbox"/>	<u>5123715</u>	June 1992	Okubo	303/108
<input type="checkbox"/>	<u>5138556</u>	August 1992	Yoshino	364/426.02

ART-UNIT: 234

PRIMARY-EXAMINER: Black; Thomas G.

ATTY-AGENT-FIRM: Sixbey, Friedman, Leedom & Ferguson

ABSTRACT:

A first estimated vehicle speed is calculated on the basis of the highest of the speeds of the wheels and the deceleration of the vehicle. A second estimated vehicle speed which begins to reduce from a predetermined value at a predetermined rate independent from the change in the highest of the speeds of the wheels from the time the first estimated vehicle speed falls to the predetermined value is calculated. A slip ratio of each wheel is calculated on the basis of the first estimated vehicle speed when the first estimated vehicle speed is not lower than the predetermined value and on the basis of the second estimated vehicle speed when the first estimated vehicle speed is lower than the predetermined value. The braking force applied to each wheel is controlled so that the slip ratio of the wheel converges on a target slip ratio.

8 Claims, 7 Drawing figures

[Previous Doc](#)

[Next Doc](#)

[Go to Doc#](#)

[First Hit](#) [Fwd Refs](#)[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)**End of Result Set**

Generate Collection

Print

L33: Entry 5 of 5

File: USPT

Sep 11, 1990

US-PAT-NO: 4955448

DOCUMENT-IDENTIFIER: US 4955448 A

TITLE: Controller for reducing acceleration slippage of a driven wheel

DATE-ISSUED: September 11, 1990

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ise; Kiyotaka	Susono			JP
Fujita; Kozo	Susono			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
Toyota Jidosha Kabushiki Kaisha				JP		03

APPL-NO: 07/ 313453 [PALM]

DATE FILED: February 22, 1989

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	63-46364	February 29, 1988

INT-CL: [05] B60K 31/00, B60L 3/10, B60T 8/32

US-CL-ISSUED: 180/197; 303/103, 364/426.02, 364/426.03

US-CL-CURRENT: 180/197; 303/141

FIELD-OF-SEARCH: 180/197, 180/233, 364/426.02, 364/426.03, 361/238, 303/95, 303/100, 303/103

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

Search Selected

Search ALL

Clear

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>3709565</u>	January 1973	Jonason et al.	361/238 X
<input type="checkbox"/> <u>4637487</u>	January 1987	Nakamura et al.	180/197
<input type="checkbox"/> <u>4648663</u>	March 1987	Nomura et al.	180/197 X

<input type="checkbox"/>	<a href="#">4682295</a>	July 1987	Kubo	361/238 X
<input type="checkbox"/>	<a href="#">4685547</a>	August 1987	Ohashi et al.	180/197
<input type="checkbox"/>	<a href="#">4722411</a>	February 1988	Ohashi et al.	180/197
<input type="checkbox"/>	<a href="#">4736814</a>	April 1988	Yogo et al.	180/197
<input type="checkbox"/>	<a href="#">4739856</a>	April 1988	Inagaki et al.	364/426.03
<input type="checkbox"/>	<a href="#">4760893</a>	August 1988	Sigi et al.	364/426.02
<input type="checkbox"/>	<a href="#">4766972</a>	August 1988	Takata et al.	180/197
<input type="checkbox"/>	<a href="#">4774667</a>	September 1988	Kuraoka et al.	364/426.02
<input type="checkbox"/>	<a href="#">4805104</a>	February 1989	Kishimoto et al.	180/197 X
<input type="checkbox"/>	<a href="#">4811808</a>	March 1989	Matsumoto et al.	180/197
<input type="checkbox"/>	<a href="#">4823269</a>	April 1989	Fujioka et al.	364/426.03
<input type="checkbox"/>	<a href="#">4824184</a>	April 1989	Spadafora et al.	364/426.02

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
3206694	September 1983	DE	
3603765A1	August 1986	DE	
60-128057	July 1985	JP	
61-1543	January 1986	JP	
61-85248	April 1986	JP	
61-182434	August 1986	JP	
61-283736	December 1986	JP	
62-149545	July 1987	JP	

ART-UNIT: 316

PRIMARY-EXAMINER: Hill; Mitchell J.

ATTY-AGENT-FIRM: Oliff &amp; Berridge

## ABSTRACT:

The acceleration-slippage controller reduces acceleration slippage at a driven wheel of an automobile by adjusting brake force on the driven wheel, and an opening of a throttle valve of the engine. When the brake-force control increases the brake force to reduce the driven-wheel rotation, the moving speed of the throttle valve is corrected toward the closed position. Because the throttle valve control correlates to the brake control, their combined control can quickly reduce the driven-wheel speed to its target without causing hunting of the throttle valve opening.

7 Claims, 20 Drawing figures

[Previous Doc](#)      [Next Doc](#)      [Go to Doc#](#)

## Hit List

Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs
Generate OACS				

Search Results - Record(s) 1 through 5 of 5 returned.

☐ 1. Document ID: US 5878365 A

Using default format because multiple data bases are involved.

L33: Entry 1 of 5

File: USPT

Mar 2, 1999

US-PAT-NO: 5878365

DOCUMENT-IDENTIFIER: US 5878365 A

TITLE: Brake condition detector and vehicle controller using the same

DATE-ISSUED: March 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Onogi; Nobuyoshi	Nagoya			JP
Imoto; Yuzo	Chita-gun			JP
Kamiya; Masahiko	Anjo			JP
Kondo; Masuhiro	Obu			JP

US-CL-CURRENT: 701/70; 303/146, 303/191, 701/80, 73/146

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	--------

☐ 2. Document ID: US 5560690 A

L33: Entry 2 of 5

File: USPT

Oct 1, 1996

US-PAT-NO: 5560690

DOCUMENT-IDENTIFIER: US 5560690 A

TITLE: Distribution system for selectively controlling and supplying brake pressure to wheels

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Draw D
------	-------	----------	-------	--------	----------------	------	-----------	--------	-----	--------

☐ 3. Document ID: US 5498072 A

L33: Entry 3 of 5

File: USPT

Mar 12, 1996

US-PAT-NO: 5498072

DOCUMENT-IDENTIFIER: US 5498072 A

**\*\* See image for Certificate of Correction \*\***



TITLE: Anti-skid control system for automotive vehicles

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Abstract	Claims	KWC	Draw. D.
------	-------	----------	-------	--------	----------------	------	-----------	----------	----------	--------	-----	----------

☐ 4. Document ID: US 5210690 A

L33: Entry 4 of 5

File: USPT

May 11, 1993

US-PAT-NO: 5210690

DOCUMENT-IDENTIFIER: US 5210690 A

TITLE: Anti-skid control system for vehicle

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Abstract	Claims	KWC	Draw. D.
------	-------	----------	-------	--------	----------------	------	-----------	----------	----------	--------	-----	----------

☐ 5. Document ID: US 4955448 A

L33: Entry 5 of 5

File: USPT

Sep 11, 1990

US-PAT-NO: 4955448

DOCUMENT-IDENTIFIER: US 4955448 A

TITLE: Controller for reducing acceleration slippage of a driven wheel

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Abstract	Claims	KWC	Draw. D.
------	-------	----------	-------	--------	----------------	------	-----------	----------	----------	--------	-----	----------

Clear

Generate Collection

Print

Fwd Refs

Bkwd Refs

Generate OACS

Terms

Documents

L32 and (reduc\$ with fluctuat\$)

5

Display Format: -

Change Format

[Previous Page](#)[Next Page](#)[Go to Doc#](#)

[First Hit](#) [Fwd Refs](#)[Previous Doc](#)[Next Doc](#)[Go to Doc#](#)

Generate Collection

Print

L33: Entry 1 of 5

File: USPT

Mar 2, 1999

US-PAT-NO: 5878365

DOCUMENT-IDENTIFIER: US 5878365 A

TITLE: Brake condition detector and vehicle controller using the same

DATE-ISSUED: March 2, 1999

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Onogi; Nobuyoshi	Nagoya			JP
Imoto; Yuzo	Chita-gun			JP
Kamiya; Masahiko	Anjo			JP
Kondo; Masuhiro	Obu			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Nippondenso Co., Ltd.	Kariya			JP	03

APPL-NO: 08/ 657188 [PALM]

DATE FILED: June 3, 1996

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	7-138068	June 5, 1995

INT-CL: [06] B60 T 17/00, B60 T 8/00

US-CL-ISSUED: 701/70; 303/191, 303/146, 73/146, 701/80

US-CL-CURRENT: 701/70; 303/146, 303/191, 701/80, 73/146

FIELD-OF-SEARCH: 701/29, 701/70, 701/73, 701/80, 303/150, 303/149, 303/191, 303/194, 303/195, 303/146, 73/146

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

Search Selected

Search ALL

Clear

PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> <u>4651290</u>	March 1987	Masaki et al.	364/550
<input type="checkbox"/> <u>5108159</u>	April 1992	Tsang et al.	303/100

<input type="checkbox"/> <u>5588721</u>	December 1996	Asano et al.	303/163
<input type="checkbox"/> <u>5596141</u>	January 1997	Nishikawa et al.	73/146.2
<input type="checkbox"/> <u>5662393</u>	September 1997	Kamiya et al.	303/194

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
2-34456	February 1990	JP	
3-7648	January 1991	JP	
6-27679	April 1994	JP	
7-186927	July 1995	JP	
7-246925	September 1995	JP	

ART-UNIT: 364

PRIMARY-EXAMINER: Zanelli; Michael

ATTY-AGENT-FIRM: Pillsbury Madison Sutro LLP

## ABSTRACT:

Vibration observed in a tire wheel portion exhibits a resonant vibration phenomenon in which vibration fluctuates between a wheel and a surface of a tire. This phenomenon shows different characteristics depending upon how the surface of the tire is in contact with a road surface. Here, a detector derives a parameter corresponding to a gradient of a coefficient of friction based on these characteristics and detects a brake condition. Also, a controller executes ABS control based on such parameter.

38 Claims, 29 Drawing figures

[Previous Doc](#)      [Next Doc](#)      [Go to Doc#](#)

[First Hit](#)   [Fwd Refs](#)   [Previous Doc](#)   [Next Doc](#)   [Go to Doc#](#)



Generate Collection

Print

L33: Entry 2 of 5

File: USPT

Oct 1, 1996

US-PAT-NO: 5560690

DOCUMENT-IDENTIFIER: US 5560690 A

TITLE: Distribution system for selectively controlling and supplying brake pressure  
to wheels

DATE-ISSUED: October 1, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hattori; Noriaki	Anjou			JP
Tozu; Kenji	Kariya			JP
Mihara; Jun	Toyoake			JP
Itoh; Takayuki	Nagoya			JP
Sugiura; Shingo	Kariya			JP
Yamazaki; Norio	Kariya			JP
Inagaki; Sho'ji	Susono			JP
Yamamoto; Masaki	Kakegawa			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Aisin Seiki Kabushiki Kaisha	Kariya			JP	03
Toyota Jidosha Kabushiki Kaisha	Toyota			JP	03

APPL-NO: 08/ 310729   [PALM]  
DATE FILED: September 22, 1994

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-236033	September 22, 1993
JP	5-237016	September 24, 1993

INT-CL: [06] B60 T 8/04, B60 T 8/60

US-CL-ISSUED: 303/116.2; 303/146

US-CL-CURRENT: 303/116.2; 303/146

FIELD-OF-SEARCH: 303/91, 303/95, 303/100, 303/111, 303/114.1, 303/113.1, 303/116.2, 303/146

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

Search ALL

Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4758053</u>	July 1988	Yasuno	303/111
<input type="checkbox"/>	<u>4881785</u>	November 1989	Ushijima et al.	303/111
<input type="checkbox"/>	<u>4887869</u>	December 1989	Nishii et al.	303/114.1
<input type="checkbox"/>	<u>4898431</u>	February 1990	Karnopp et al.	
<input type="checkbox"/>	<u>4989925</u>	February 1991	Kohno	303/116.2
<input type="checkbox"/>	<u>4998593</u>	March 1991	Karnopp et al.	
<input type="checkbox"/>	<u>5112115</u>	May 1992	Willmann et al.	303/114.1
<input type="checkbox"/>	<u>5207483</u>	May 1993	Shimada et al.	303/111
<input type="checkbox"/>	<u>5211453</u>	May 1993	Van Zanten et al.	303/111
<input type="checkbox"/>	<u>5224765</u>	July 1993	Matsuda	303/111
<input type="checkbox"/>	<u>5267783</u>	December 1993	Inoue et al.	303/111
<input type="checkbox"/>	<u>5333944</u>	August 1994	Shirai et al.	303/116.2
<input type="checkbox"/>	<u>5385393</u>	January 1995	Tanaka et al.	303/111

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
3616907	November 1987	DE	
4185562	July 1992	JP	
4287754	October 1992	JP	

ART-UNIT: 313

PRIMARY-EXAMINER: Graham; Matthew C.

ATTY-AGENT-FIRM: Sughrue, Mion, Zinn, Macpeak &amp; Seas

## ABSTRACT:

A brake force distribution control system comprising wheel speed sensing means S1, S3 which detect wheel speeds VWFR, VWRR of a front right wheel FR and a rear right wheel RR respectively, standard speed calculating means M1 calculating first speed value B and second speed value C from each of the wheel speeds VWFR, VWRR, and figuring out front medium value of VWFR, B and C and rear medium value of VWFR, B and C as standard wheel speeds VWSFR, VWSRR respectively, comparison means M2 calculating a difference between the standard wheel speeds VWSRR and VWSFR and driving means M3 operating a pressure control valve unit FV depending on the differences so as to modulate brake force of the rear right wheel RR relative to that of the front right wheel FR.

10 Claims, 23 Drawing figures

[Previous Doc](#)

[Next Doc](#)

[Go to Doc#](#)

[First Hit](#) [Fwd Refs](#) [Previous Doc](#) [Next Doc](#) [Go to Doc#](#)

Generate Collection

Print

L33: Entry 3 of 5

File: USPT

Mar 12, 1996

US-PAT-NO: 5498072

DOCUMENT-IDENTIFIER: US 5498072 A

**\*\* See image for Certificate of Correction \*\***TITLE: Anti-skid control system for automotive vehicles

DATE-ISSUED: March 12, 1996

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Shimizu; Kouichi	Sagamihara			JP

## ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Nissan Motor. Co., Ltd.	Kanagawa			JP	03

APPL-NO: 08/ 447586 [PALM]

DATE FILED: May 23, 1996

## FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	6-109957	May 24, 1994

INT-CL: [06] B60 T 8/58

US-CL-ISSUED: 303/191; 303/DIG.7

US-CL-CURRENT: 303/191; 303/DIG.7

FIELD-OF-SEARCH: 303/191, 303/163, 303/DIG.7, 364/426.02

PRIOR-ART-DISCLOSED:

## U.S. PATENT DOCUMENTS

Search Selected

Search ALL

Clear

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	<u>4545623</u>	October 1985	Sato et al.	303/DIG.7 X
<input type="checkbox"/>	<u>5015042</u>	May 1991	Yoshino	303/170
<input type="checkbox"/>	<u>5200897</u>	April 1993	Makino et al.	303/DIG.7 X

## FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	US-CL
2-169362	June 1990	JP	
3-67764	March 1991	JP	
4-27650	January 1992	JP	

ART-UNIT: 313

PRIMARY-EXAMINER: Ballato; Josie

ATTY-AGENT-FIRM: Lowe, Price, Leblanc & Becker

ABSTRACT:

An automobile anti-skid brake control system, comprises wheel-speed sensors, a pseudo vehicle speed generator, an arithmetic circuit for calculating a slip ratio of each road wheel, and a controller for controlling a wheel-brake cylinder pressure of each road wheel. The controller includes a compensation circuit for compensating a different-diameter wheel speed of a different-diameter road wheel with a small-sized emergency tire, utilizing an error rate of the different-diameter wheel speed with respect to the detected wheel speed of the other road wheel with a usual tire. The error rate is derived on the basis of a ratio of diameter-difference between the different-diameter road wheel and the other road wheel. The ratio of diameter-difference is derived on the basis of a maximum wheel speed corresponding to the different-diameter wheel speed and a second highest wheel speed of the detected wheel speeds. The controller controls each wheel-brake cylinder pressure so that the slip ratio derived from a compensated pseudo vehicle speed based on the compensated different-diameter wheel speed is adjusted to a predetermined reference slip ratio.

9 Claims, 13 Drawing figures

[Previous Doc](#)

[Next Doc](#)

[Go to Doc#](#)



increase/decrease time of the left-side wheel is greater than or equal to a reference value while the antiskid control is being executed on one of the right-side wheel and the left-side wheel, the first controller determines that the road surface friction coefficients corresponding to the right-side wheel and the left-side wheel are different from each other.

8. The vehicular antiskid control apparatus according to claim 1, wherein the right-side wheel and the left-side wheel are front wheels of the vehicle.

9. A vehicular antiskid control method by comprising:  
determining whether road surface friction coefficients corresponding to a right-side wheel and a left-side wheel are different from each other; and  
reducing a fluctuation in the brake pressure of a higher-friction coefficient road surface side wheel, of the right-side wheel and the left-side wheel, caused by execution of the antiskid control on that wheel if it is determined that road surface friction coefficients corresponding to the right-side wheel and the left-side wheel are different from each other.

=

**((((SPEC/antiskid AND SPEC/"high friction") AND SPEC/"low friction") AND SPEC/"left wheel") AND SPEC/"right wheel")): 8 patents.**

*Hits 1 through 8 out of 8*











Refine Search

SPEC/antiskid AND SPEC/"high friction" AND

PAT.  
NO.

Title

- 1 6,792,343  Antiskid braking control system
- 2 6,474,751  Hydraulic circuit having a rotary type pump and brake apparatus for a vehicle provided with the same
- 3 6,142,581  Hydraulic circuit having a rotary type pump and brake apparatus for a vehicle provided with the same
- 4 5,978,726  Driving torque control method and apparatus for a four-wheel drive vehicle
- 5 5,481,455  System for detecting hydroplaning of vehicle
- 6 5,016,178  Brake pressure control apparatus
- 7 5,001,640  Servo control system
- 8 4,093,317  Vehicle antiskid brake control system having means for adjusting a non-sensed wheel brake pressure relative to a sensed wheel brake pressure